

WHAT IS CLAIMED IS:

1. A composition comprising, in a cosmetically acceptable medium, at least one fluorescent dye that is soluble in said medium and at least one compound comprising an acid functional group, with a molecular weight of less than 500 g/mol, chosen from mineral compounds and organic compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated, hydrocarbon-based radicals comprising 1 to 30 carbon atoms, and aromatic radicals comprising 6 to 30 carbon atoms, wherein said hydrocarbon-based radicals are optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms, and are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one heteroatom;

and wherein the composition does not comprise, as the at least one fluorescent dye, 2-[2-(4-dialkylamino)phenylethenyl]-1-alkylpyridinium wherein the alkyl radical of the pyridinium nucleus is chosen from methyl and ethyl radicals, the alkyl radical of the benzene nucleus represents a methyl radical, and a counterion is a halide.

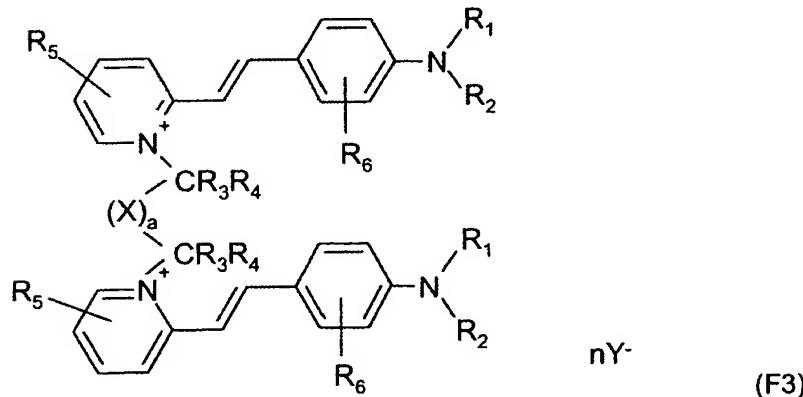
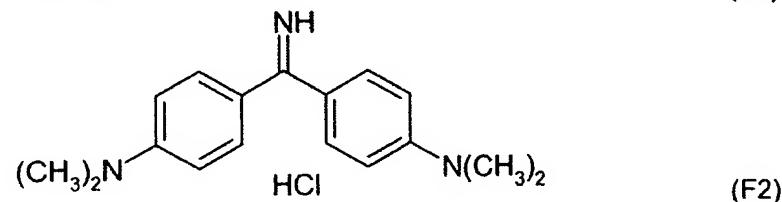
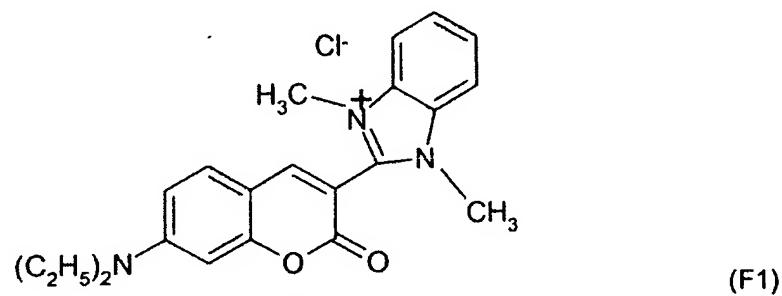
2. A composition according to claim 1, wherein the at least one fluorescent dye provides a reflectance maximum that is in the wavelength range from 500 to 650 nanometers.

3. A composition according to claim 2, wherein the at least one fluorescent dye provides a reflectance maximum that is in the wavelength range from 550 to 620 nanometers.

4. A composition according to claim 1, wherein the at least one fluorescent dye is chosen from the fluorescent dyes belonging to the following families: naphthalimides;

cationic coumarins; non-cationic coumarins; xanthenodiquinolizines; azaxanthenes; naphtholactams; azlactones; oxazines; thiazines; dioxazines; azo, azomethine, and methine polycationic fluorescent dyes, and mixtures thereof.

5. A composition according to claim 1, wherein the at least one fluorescent dye has the following formula:



in which:

R_1 and R_2 , which may be identical or different, are chosen from:

- hydrogen atoms;
- linear or branched alkyl radicals comprising 1 to 10 carbon atoms, optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and optionally substituted with at

least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;

- aryl and arylalkyl radicals, the aryl radicals comprising 6 carbon atoms and the alkyl groups comprising 1 to 4 carbon atoms; the aryl groups optionally being substituted with at least one linear or branched alkyl radical comprising 1 to 4 carbon atoms, wherein said at least one alkyl radical is optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and is optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;
- R_1 and R_2 may optionally be linked so as to form a heterocycle with the nitrogen atom to which they are attached and may comprise at least one other hetero atom, the heterocycle optionally being substituted with at least one linear or branched alkyl radical, wherein the at least one alkyl radical is optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and is optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;
- R_1 or R_2 may optionally form a heterocycle comprising the nitrogen atom to which they are attached and one of the carbon atoms of the phenyl group comprising the nitrogen atom;

R_3 and R_4 , which may be identical or different, are chosen from hydrogen atoms and alkyl radicals comprising 1 to 4 carbon atoms;

R_5 , which may be identical or different, are chosen from hydrogen atoms, halogen atoms,

and linear or branched alkyl radicals comprising 1 to 4 carbon atoms, optionally interrupted with at least one hetero atom;

R_6 , which may be identical or different, is chosen from hydrogen atoms; halogen atoms; linear or branched alkyl radicals comprising 1 to 4 carbon atoms, optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;

X is chosen from:

- linear or branched alkyl radicals comprising 1 to 14 carbon atoms and alkenyl radicals comprising 2 to 14 carbon atoms, wherein said alkyl radicals and said alkenyl radicals are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and are optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;
- 5- or 6-membered heterocyclic radicals optionally substituted with at least one entity chosen from
 - linear or branched alkyl radicals comprising 1 to 14 carbon atoms, optionally substituted with at least one hetero atom;
 - linear or branched aminoalkyl radicals comprising 1 to 4 carbon atoms, optionally substituted with at least one hetero atom; and
 - halogen atoms;
- fused or non-fused aromatic or diaromatic radicals, optionally separated with at least one alkyl radical comprising 1 to 4 carbon atoms, the aromatic or diaromatic radicals optionally being substituted with at least one entity chosen

from halogen atoms and alkyl radicals comprising 1 to 10 carbon atoms, wherein said alkyl radicals comprising 1 to 10 carbon atoms are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and are optionally substituted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom;

- dicarbonyl radicals;
- the group X optionally comprising at least one cationic charge;

a is chosen from 0 and 1;

Y', which may be identical or different, is chosen from organic and mineral anions; and n is an integer at least equal to 2 and at most equal to the number of cationic charges present in the at least one fluorescent dye.

6. A composition according to claim 5, wherein R₁ and R₂, which may be identical or different, are chosen from linear or branched alkyl radicals comprising 1 to 4 carbon atoms.

7. A composition according to claim 5, wherein R₁ and R₂, which may be identical or different, are linked so as to form a heterocycle with the nitrogen atom and comprise at least one hetero atom, the heterocycle being substituted with at least one linear or branched alkyl radical comprising 1 to 4 carbon atoms.

8. A composition according to claim 1, wherein the at least one fluorescent dye is present in an amount ranging from 0.01% to 20% by weight relative to the total weight of the composition.

9. A composition according to claim 8, wherein the at least one fluorescent dye is present in an amount ranging from 0.05% to 10% by weight relative to the total weight of

the composition.

10. A composition according to claim 9, wherein the at least one fluorescent dye is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

11. A composition according to claim 1, wherein the mineral compounds are chosen from strong acids.

12. A composition according to claim 11, wherein the strong acids are chosen from hydrochloric acid, sulphuric acid, orthophosphoric acid, and mixtures thereof.

13. A composition according to claim 1, wherein the organic compounds are chosen from compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated hydrocarbon-based radicals comprising from 1 to 30 carbon atoms, and aromatic radicals comprising from 6 to 30 carbon atoms, wherein said hydrocarbon-based radicals are optionally interrupted with and optionally substituted with at least one entity chosen from -OH, -NH₂, NHR, and -OR, wherein R is chosen from C₁-C₄ alkyl radicals, halogen atoms, and mixtures thereof.

14. A composition according to claim 13, wherein the halogen atoms are chosen from chlorine and fluorine.

15. A composition according to claim 1, wherein the acid is chosen from monocarboxylic acids, natural amino acids and synthetic amino acids in a form chosen from L, D and racemic forms, and mixtures thereof.

16. A composition according to claim 15, wherein the monocarboxylic acids are chosen from acetic acid, lactic acid, tartaric acid, benzoic acid, and anisidic acid.

17. A composition according to claim 15, wherein the natural and synthetic amino

acids are chosen from taurine, lysine, arginine, and aspartic acid.

18. A composition according to claim 15, wherein the acid is chosen from polyacids.

19. A composition according to claim 18, wherein the polyacids are chosen from citric acid, succinic acid, maleic acid, adipic acid, and mixtures thereof.

20. A composition according to claim 1, wherein the compound comprising an acid functional group is present in an amount ranging from 0.001% to 25% by weight relative to the weight of the composition.

21. A composition according to claim 20, wherein the compound comprising an acid functional group is present in an amount ranging from 0.01% to 10% by weight relative to the weight of the composition.

22. A composition according to claim 1, further comprising at least one surfactant chosen from nonionic, anionic, and amphoteric surfactants.

23. A composition according to claim 22, wherein the at least one surfactant is present in an amount ranging from 0.01% to 30% by weight relative to the total weight of the composition.

24. A composition according to claim 1, further comprising at least one additional non-fluorescent direct dye chosen from nonionic, cationic, and anionic direct dyes.

25. A composition according to claim 24, wherein the at least one additional fluorescent direct dye is chosen from nitrobenzene dyes, azo dyes, anthraquinone dyes, naphthoquinone dyes, benzoquinone dyes, phenothiazine dyes, indigoid dyes, xanthene dyes, phenanthridine dyes, phthalocyanin dyes, and triarylmethane-based dyes.

26. A composition according to claim 24, wherein the at least one additional fluorescent direct dye is present in an amount ranging from 0.0005% to 12% by weight

relative to the total weight of the composition.

27. A composition according to claim 26, wherein the at least one additional fluorescent direct dye is present in an amount ranging from 0.005% to 6% by weight relative to the total weight of the composition.

28. A composition according to claim 1, wherein the composition is in the form of a lightening dyeing shampoo.

29. A composition according to claim 1, further comprising at least one oxidation base chosen from para-phenylenediamines, bis(phenyl)alkylenediamines, para-amino-phenols, ortho-aminophenols, heterocyclic bases, and the acid and alkaline addition salts thereof.

30. A composition according to claim 29, wherein the at least one oxidation base is present in an amount ranging from 0.0005% to 12% by weight relative to the total weight of the composition.

31. A composition according to claim 30, wherein the at least one oxidation base is present in an amount ranging from 0.005% to 6% by weight relative to the total weight of the composition.

32. A composition according to claim 29, further comprising at least one coupler chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols, heterocyclic couplers, and the acid and alkaline addition salts thereof.

33. A composition according to claim 32, wherein the at least one coupler is present in an amount ranging from 0.0001% to 10% by weight relative to the total weight of the dye composition.

34. A composition according to claim 33, wherein the at least one coupler is present in an amount ranging from 0.005% to 5% by weight relative to the total weight of

the dye composition.

35. A composition according to claim 1, further comprising at least one oxidizing agent.

36. A composition according to claim 35, wherein the at least one oxidizing agent is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, persalts, and enzymes.

37. A composition according to claim 36, wherein the persalts are chosen from perborates and persulphates.

38. A composition according to claim 36, wherein the enzymes are chosen from peroxidases, two electron oxidoreductases, and four electron oxidoreductases.

39. A composition according to claim 36, wherein the at least one oxidizing agent is hydrogen peroxide.

40. A composition according to claim 1, wherein the at least one fluorescent dye is a dye in the orange range.

41. A process for dyeing human keratin fibers with a lightening effect, comprising:

a) applying to said fibers a dye composition comprising, in a cosmetically acceptable medium,

at least one fluorescent dye that is soluble in said medium and

at least one compound comprising an acid functional group, with a molecular weight of less than 500 g/mol, chosen from mineral compounds and organic compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated, hydrocarbon-based radicals comprising 1 to 30 carbon atoms, and aromatic radicals comprising 6 to 30 carbon atoms, wherein said hydrocarbon-based radicals are

optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms, and are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one heteroatom;

and wherein the composition does not comprise, as the at least one fluorescent dye, 2-[2-(4-dialkylamino)phenylethenyl]-1-alkylpyridinium wherein the alkyl radical of the pyridinium nucleus is chosen from methyl and ethyl radicals, the alkyl radical of the benzene nucleus represents a methyl radical, and a counterion is a halide,

for a time that is sufficient to develop a desired coloration and lightening,

- b) optionally rinsing the fibers, and
- c) optionally washing with fibers with shampoo and optionally rinsing the fibers, and
- d) drying the fibers or leaving the fibers to dry.

42. A process for dyeing human keratin fibers with a lightening effect, comprising

- a) separately storing

- (i) a dye composition comprising, in a cosmetically acceptable medium, at least one fluorescent dye that is soluble in said medium and at least one compound comprising an acid functional group, with a molecular weight of less than 500 g/mol, chosen from mineral compounds and organic compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated, hydrocarbon-based radicals comprising 1 to 30 carbon atoms, and aromatic radicals comprising 6 to 30 carbon atoms, wherein said hydrocarbon-based radicals are optionally substituted with at least one entity chosen from hetero atoms, groups

comprising at least one hetero atom, and halogen atoms, and are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one heteroatom;

and wherein the composition does not comprise, as the at least one fluorescent dye, 2-[2-(4-dialkylamino)phenylethenyl]-1-alkylpyridinium wherein the alkyl radical of the pyridinium nucleus is chosen from methyl and ethyl radicals, the alkyl radical of the benzene nucleus represents a methyl radical, and a counterion is a halide, and

- (ii) a composition comprising, in a cosmetically acceptable medium, at least one oxidizing agent,
- b) mixing (i) and (ii) together at the time of use,
- c) applying the mixture to the fibers for a time that is sufficient to develop a desired coloration,
- d) optionally rinsing the fibers,
- e) optionally washing the fibers with shampoo and optionally rinsing the fibers again, and
- f) drying the fibers or leaving the fibers to dry.

43. A process according to claim 41, wherein the composition is applied to hair with a tone height of less than or equal to 6.

44. A process according to claim 43, wherein the composition is applied to hair with a tone height of less than or equal to 4.

45. A process according to claim 41, wherein the human keratin fibers are artificially pigmented and/or dyed.

46. A process for coloring dark skin with a lightening effect, comprising: applying to the skin a dye composition comprising, in a cosmetically acceptable

medium,

at least one fluorescent dye that is soluble in said medium and
at least one compound comprising an acid functional group, with a molecular weight of less than 500 g/mol, chosen from mineral compounds and organic compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated, hydrocarbon-based radicals comprising 1 to 30 carbon atoms, and aromatic radicals comprising 6 to 30 carbon atoms, wherein said hydrocarbon-based radicals are optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms, and are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one heteroatom;

and wherein the composition does not comprise, as the at least one fluorescent dye, 2-[2-(4-dialkylamino)phenylethenyl]-1-alkylpyridinium wherein the alkyl radical of the pyridinium nucleus is chosen from methyl and ethyl radicals, the alkyl radical of the benzene nucleus represents a methyl radical, and a counterion is a halide; and

drying the skin or leaving the skin to dry.

47. A multi-compartment device for dyeing and lightening keratin fibers, comprising

at least one compartment comprising a dye composition comprising, in a cosmetically acceptable medium,

at least one fluorescent dye that is soluble in said medium and
at least one compound comprising an acid functional group, with a molecular

weight of less than 500 g/mol, chosen from mineral compounds and organic compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated, hydrocarbon-based radicals comprising 1 to 30 carbon atoms, and aromatic radicals comprising 6 to 30 carbon atoms, wherein said hydrocarbon-based radicals are optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms, and are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one heteroatom;

and wherein the composition does not comprise, as the at least one fluorescent dye, 2-[2-(4-dialkylamino)phenylethenyl]-1-alkylpyridinium wherein the alkyl radical of the pyridinium nucleus is chosen from methyl and ethyl radicals, the alkyl radical of the benzene nucleus represents a methyl radical, and a counterion is a halide, and

at least one other compartment comprising a composition comprising at least one oxidizing agent.

48. A process for dyeing keratin materials with a lightening effect comprising, applying to keratin materials a dye composition comprising, in a cosmetically acceptable medium, at least one fluorescent dye that is soluble in the medium and at least one compound comprising an acid functional group, with a molecular weight of less than 500 g/mol, chosen from mineral compounds and organic compounds comprising at least one entity chosen from carboxylic functional groups, sulphonic functional groups, linear or branched, saturated or unsaturated hydrocarbon-based radicals comprising from 1 to 30 carbon atoms, and aromatic radicals comprising from 6 to 30 carbon atoms, wherein said

hydrocarbon-based radicals are optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms and are optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one heteroatom.

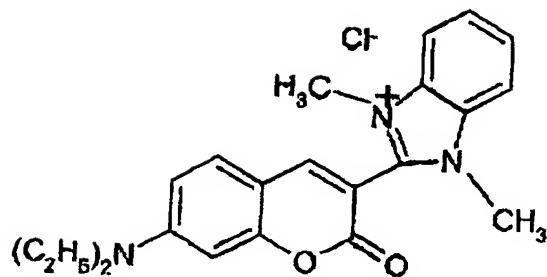
49. A process according to claim 48, wherein the at least one fluorescent dye gives a reflectance maximum that is in the wavelength range from 500 to 650 nanometers.

50. A process according to claim 49, wherein the at least one fluorescent dye gives a reflectance maximum that is in the wavelength range from 550 to 620 nanometers.

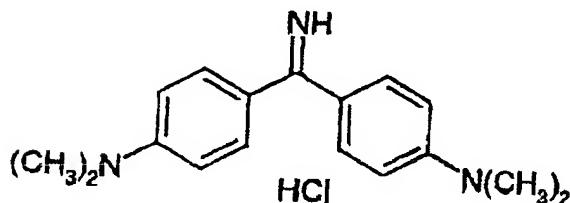
51. A process according to claim 50, wherein the at least one fluorescent dye is a dye in the orange range.

52. A process according to claim 48, wherein the at least one fluorescent dye is chosen from fluorescent compounds belonging to the following families: naphthalimides; cationic coumarins; non-cationic coumarins; xanthenodiquinolizines; azaxanthenes; naphtholactams; azlactones; oxazines; thiazines; dioxazines; azo, azomethine, and methine monocationic fluorescent dyes, azo, azomethine, and methine polycationic fluorescent dyes, and mixtures thereof.

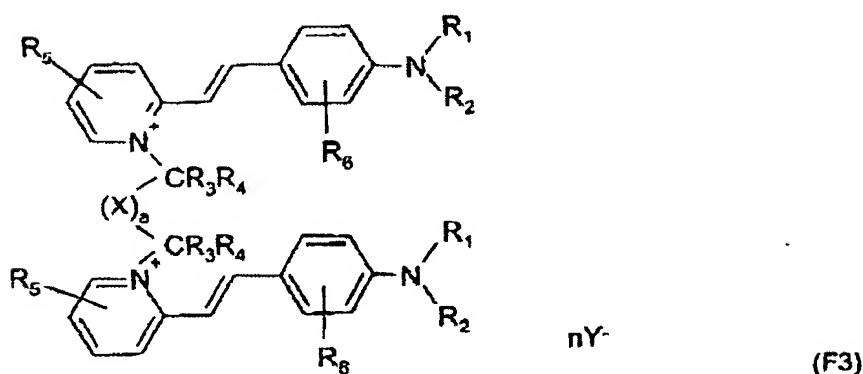
53. A process according to claim 48, wherein the at least one fluorescent dye is chosen from the group formed by the dyes having the following structures:



(F1)



(F2)



in which:

R_1 and R_2 , which may be identical or different, are chosen from:

- hydrogen atoms;
- linear or branched alkyl radicals comprising 1 to 10 carbon atoms, optionally

interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and optionally substituted with at least one entity chosen

from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;

- aryl or arylalkyl radicals, the aryl groups comprising 6 carbon atoms and the alkyl groups comprising 1 to 4 carbon atoms; wherein the aryl groups are optionally substituted with at least one linear or branched alkyl radical comprising 1 to 4 carbon atoms, said at least one alkyl radical being optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and being optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;
- R_1 and R_2 may optionally be linked so as to form a heterocycle comprising the nitrogen atom to which they are attached and may comprise at least one other hetero atom, wherein the heterocycle is optionally substituted with at least one linear or branched alkyl radical, said at least one alkyl radical being optionally interrupted by at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and being optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;
- R_1 or R_2 may optionally form a heterocycle comprising the nitrogen atom to which they are attached and one of the carbon atoms of the phenyl group comprising said nitrogen atom;

R_3 and R_4 , which may be identical or different, are chosen from hydrogen atoms and alkyl radicals comprising 1 to 4 carbon atoms;

R_5 , which may be identical or different, is chosen from hydrogen atoms, halogen atoms, and linear or branched alkyl radicals comprising 1 to 4 carbon atoms, optionally interrupted with at least one hetero atom;

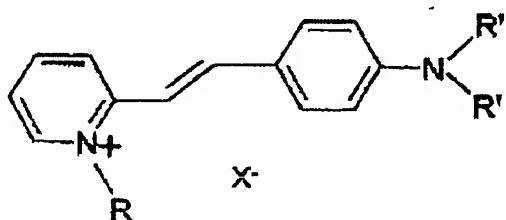
R_6 , which may be identical or different, is chosen from hydrogen atoms; halogen atoms;

and from linear or branched alkyl radicals comprising 1 to 4 carbon atoms, optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;

X is chosen from:

- linear or branched alkyl radicals comprising 1 to 14 carbon atoms and alkenyl radicals comprising 2 to 14 carbon atoms, said alkyl radicals and alkenyl radicals being optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom and being optionally substituted with at least one entity chosen from hetero atoms, groups comprising at least one hetero atom, and halogen atoms;
- 5- or 6-membered heterocyclic radicals optionally substituted with at least one of
 - linear or branched alkyl radicals comprising 1 to 14 carbon atoms, optionally substituted with at least one hetero atom;
 - linear or branched aminoalkyl radicals comprising 1 to 4 carbon atoms, optionally substituted with at least one hetero atom; and
 - halogen atoms;
- fused or non-fused, aromatic or diaromatic radicals, optionally separated with an alkyl radical comprising 1 to 4 carbon atoms, wherein the aromatic or diaromatic radicals are optionally substituted with at least one of halogen atoms and alkyl radicals comprising 1 to 10 carbon atoms, said alkyl radicals comprising 1 to 10 carbon atoms being optionally substituted and optionally interrupted with at least one entity chosen from hetero atoms and groups comprising at least one hetero atom;
- dicarbonyl radicals;

- the group X optionally comprising at least one cationic charge; a is chosen from 0 and 1; Y⁻, which may be identical or different, is chosen from organic and mineral anions; and n is an integer at least equal to 2 and at most equal to the number of cationic charges present in the at least one fluorescent dye of formula (F4):



in which formula R is chosen from methyl and ethyl radicals; R' is a methyl radical, and X- is an anion.

54. A process according to claim 53, wherein R₁ and R₂, which may be identical or different, are chosen from linear or branched alkyl radicals comprising 1 to 4 carbon atoms.

55. A process according to claim 53, wherein R₁ and R₂ are linked so as to form a heterocycle comprising the nitrogen atom and comprise at least one hetero atom, wherein the heterocycle is optionally substituted with at least one linear or branched alkyl radical comprising 1 to 4 carbon atoms.

56. A process according to claim 53, wherein in formula (F4) X- is an anion chosen from chloride, iodide, sulphate, methosulphate, acetate, and perchlorate ions.

57. A process according to claim 48, wherein the keratin materials are chosen from artificially colored and/or pigmented keratin fibers and dark skin.

58. A process according to claim 57, wherein the artificially colored and/or

pigmented keratin fibers are hair.

59. A process according to claim 58, wherein the hair has a tone height of less than or equal to 6.

60. A process according to claim 59, wherein the hair has a tone height of less than or equal to 4.